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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,126	09/25/2006	Akira Funaki	KINOS-0002	7075
23599 7590 01/22/2009 MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201				
EXAMINER				
KRYLOVA, IRINA				
ART UNIT		PAPER NUMBER		
4131				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/594,126

Applicant(s)

FUNAKI ET AL.

Examiner

IRINA KRYLOVA

Art Unit

4131

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)
- Paper No(s)/Mail Date 09/25/2008
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

- 1) The disclosure is objected to because of the following informalities. Multiple alpha-olefins in paragraph [0031] are misspelled. Appropriate correction is required.
- 2) Table 2 on page 34 is objected. Units for Impact strength are incorrectly provided as U/m, which should be changed to J/m. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the word "preferably" which does not clearly states if the nucleating agent is present in the composition or not.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Yamaguchi et al in JP 2003-170485 (rejection is based on machine English translation) in view of **Fujimura et al** in JP 2002-144505.

Yamaguchi et al discloses a method for producing a **transparent** polypropylene sheet from a composition comprising (see Table 1):

- 1) 60-97% mass of polypropylene having an isotactic pentad fraction 0.85-0.99 and melt index 2-10g/10 min;
- 2) 3-40% mass of a racemic polypropylene;
- 3) 4% mass of olefin copolymers ([0076], [0077]. [0016]),

wherein the method comprises:

- a) melt extruding the composition;
- b) cooling for quenching the sheet ([0040], [0041]);
- b) heat treating the sheet at a temperature 70C-175C ([0045]).

As to instant claim 12, the polypropylene sheet components do not contain a nucleating agent ([0033]). As to instant claims 13-14, the cooling step is provided by cooling water or endless belt or a roll ([0017]). Specifically, the cooling step is conducted by passing sheet through a slit, down which cooling water flows ([0020]). As to instant claims 15-18, the heating step is conducted by passing the sheet through a metal endless belts and/or metal roll which have a mirror plane ([0022]).

Though **Yamaguchi et al** does not specify the olefin copolymer having no nucleating agent, however, since **Yamaguchi et al** specifically states that the main polypropylene

components do not contain nucleating agent and still have good transparency, therefore, it would have been obvious to avoid adding nucleating agent into the olefin copolymer and still have good transparency. In alternative, since the presence of the nucleating agent in the olefin copolymer is not stated, it is assumed that the nucleating agent is absent.

Yamaguchi et al does not specify the olefin copolymer being ethylene-alpha-olefin copolymer produced using a metallocene catalyst and having density of 880-920 kg/m³ and MFR 1-30g/10 min.

Fujimura et al discloses a **transparent** polyolefin sheet produced by a method comprising melt extruding the polyolefin composition, followed by cooling using cooling roller ([0081]), wherein the composition comprises a propylene polymer and ethylene-alpha-olefin copolymer produced using metallocene catalyst and having a density of 0.86-0.91g/cc and a MFR of 1-50 g/10 min (Abstract).

Since both **Yamaguchi et al** and **Fujimura et al** disclose **transparent** sheet products produced by similar methods from similar compositions, but 1) **Fujimura et al** teaches the use of a specific ethylene-alpha-olefin copolymer produced using metallocene catalyst and having a density of 0.86-0.91g/cc and a MFR of 1-50 g/10 min to produce sheet with good transparency, therefore, it would have been obvious to one skilled in the art at the time of the invention was made to use the low density metallocene

ethylene-alpha-olefin copolymer of **Fujimura et al** in the composition of **Yamaguchi et al** to ensure good transparency, hardness and plasticity of the sheet product (see [0006] in **Fujimura et al**).

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tanaka et al** in US 6,403,719, as evidenced in **Miller et al** US 2003/0191215.

Tanaka et al discloses an extrusion molded product having a good transparency (col. 24, lines 17-18) made from a resin composition comprising (col. 1, lines 50-56):

1) 100 parts by weight of ethylene/alpha-olefin copolymer;

--- produced using metallocene catalysts (col. 2, lines 29-65);

--- having a density of 0.900 g/cc (col. 1, lines 57-58);

2) 2-200 parts by weight of polypropylene resin

-- having a melt flow rate of 7-50g/10 min (col. 18, lines 40-45).

These ranges are overlapping with the ranges claimed in the instant invention, and overlapping have been held to establish prima facie obviousness.

Though **Tanaka et al** does not specify isotactic pentad fraction value of the polypropylene, however, in Example (col. 20, lines 34-40), the cited propylene polymer shows a melting point of 142°C, meaning that it is crystalline. It is well known in the art, that crystalline propylene polymers comprise high isotactic pentad fraction and any deviation from stereoregular isotactic structure will result in lowering crystallinity (see [0006] in **Miller et al** US 2003/0191215). Therefore, it is assumed that polypropylene of

Tanaka et al has high isotactic pentad fraction.

Since **Tanaka et al** recites the same composition as claimed in the present invention, though silent about some of its properties, such as MFR of metallocene ethylene/alpha-olefin copolymer, tensile modulus, total haze and impact resistance of the composition, nevertheless, these properties are assumed to be obvious because of the overlapping ranges of components.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Seelert et al** in US 2002/0019488.

Seelert et al discloses a film or extruded article ([0005]) made from a composition comprising (Abstract and Example 1, Table 1):

1) 90 parts by weight of propylene homopolymer having:

--- MFR of 12.8 g/10 min;

--- isotacticity index of 98.6% ([0203]);

2) 10 parts by weight of ethylene/butene-1 copolymer prepared using metallocene catalyst and having:

- density of 0.903 g/cc;
- MFR of 3.9 g/10 min ([205]),

wherein the composition comprises tensile modulus of 1580 MPa (Table 1).

Though **Seelert et al** is silent about other properties of the composition, such as transparency, haze and impact resistance at -5°C, since the composition of **Seelert et al** is the same as composition claimed in the instant invention, these properties are considered to be inherent properties. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maruyama et al in US 2003/0212193 discloses propylene-based polymers having high transparency and impact resistance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IRINA KRYLOVA whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 4131

/I. K./
Examiner, Art Unit 4131